

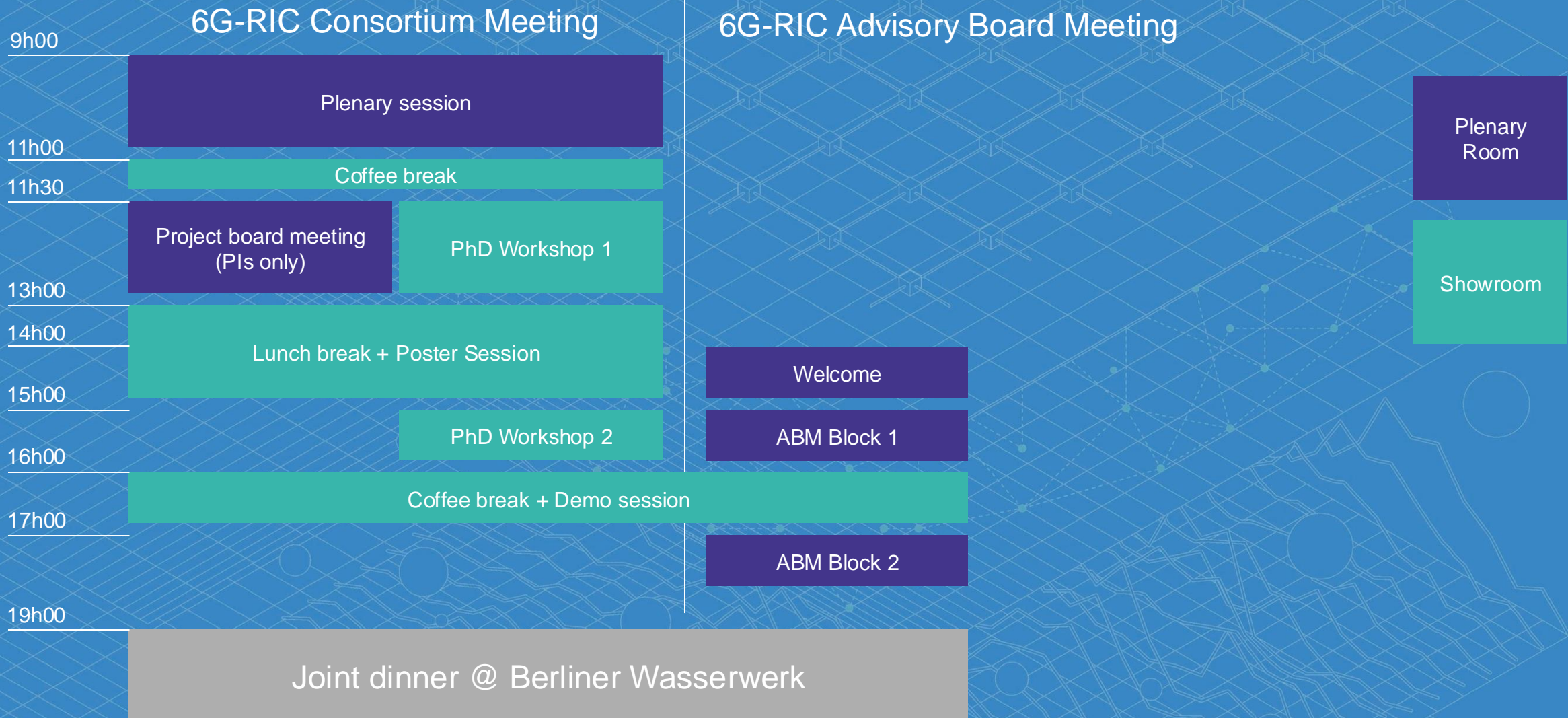
6G-RIC Workshop

6G Technology Advancements: Highlights & Future Directions

October 10, 2024 @ Fraunhofer HHI, Berlin
Science and Event Space, Lanolinfabrik, Salzufer 15-16

6G-RIC Events

October 10, 2024, Fraunhofer HHI, Salzufer 15-16, Berlin



6G-RIC PhD Workshop 1

October 10, 2024, Fraunhofer HHI, Salzufer 15-16, Berlin



TIMELINE

11h30-13h00

Planned Talks:

40 GS/s Low-power DAC for 6G Communication.

Near-Field Codebook Design for IRS-Assisted mmWave Communication

RIS Hardware Implementations in FR1, FR2 & FR3

Efficient Joint Waveform Design for ISAC with PAPR Constraints

Decentralized Power Allocation in ISAC-enabled Vehicular Networks

Design and performance of enhanced spread spectrum Aloha for unsourced multiple access

Ahmed Elsayed (IHP)

Moritz Garkisch (FAU)

Hammu Mohamed, Bilal (TU Berlin (HFS))

Kilic, Berkan (HHI)

Gartenmeister, Katrin (RWTH)

Riccardo Schiavone (DLR)

6G-RIC Poster Session

October 10, 2024, Fraunhofer HHI, Salzufer 15-16, Berlin



TIMELINE

13h00-15h00

Planned Talks:

Self-Interference Reduction via Analog/Hybrid Beamforming for Integrated Sensing and Communication	Hernangómez Herrero, Rodrigo (HHI)
Efficient Joint Waveform Design for ISAC with PAPR Constraints	Kilic, Berkan (HHI)
OFDM Waveform and Resource Allocation For ISAC system: Looking for a free lunch	Fazli, Abdolvakil (HHI)
IoT Traffic Allocation in Hybrid LEO-GEO Satellite Networks for Latency Minimization	Grec, Marcel (DLR)
Enabling and Modelling the Tracking of Moving Devices through Radio Frequency Fingerprinting	Thibaud Ardoin (FU Berlin)
Machine Learning and Deep Learning-Based Jamming Detection for Wideband Systems	Hamed Fard (FU Berlin)
Securing Next-Generation Open Radio Access Networks	Felix Klement (Uni Passau)
A Deep Unfolding-Based Scalarization Approach for Power Control in D2D Networks	Hauffen, Jan Christian (TU Berlin)
Coded Caching in Multi-AP Wireless Local Area Networks	Akcay, Kagan (TU Berlin)
A Novel Framework for ISAC-FD-enabled URLLC systems	Atefeh Rezaei (TU Berlin)

6G-RIC PhD Workshop 2

October 10, 2024, Fraunhofer HHI, Salzufer 15-16, Berlin



TIMELINE

15h00-16h00

Planned Talks:

Asynchronous unsourced multiple access with and without delays information

An Investigation into the Performance of Non-Contrastive Self-Supervised Learning
Methods for Network Intrusion Detection

Fronthaul Resource Optimization for Cell-Free User-Centric Massive MIMO Networks

XAIomaly: Explainable, Interpretable and Trustworthy AI for xURLLC in 6G Open-RAN

Jyun-Sian Wu (TU Braunschweig)

Habibi Fard, Hamed (FU Berlin)

Ameya Joshi (TU Chemnitz)

Osman Tugay Basaran (TU Berlin)

6G-RIC Advisory Board Meeting

October 10, 2024, Fraunhofer HHI, Salzufer 15-16, Berlin



TIMELINE

Participants: 6G-RIC PIs + Advisory Board Members

14h00-15h00

Welcome Advisory Board Members

Plenary Room, E-07

15h00-18h00

Advisory Board Meeting

Plenary Room, E-07

15h00-16h00

- Block I: Discussion with Advisory Board Members (in-person & hybrid)

Plenary Room, E-07

16h00-17h00

- Demo Session (Preview for ABMs)

Showroom, E-02

17h00-18h00

- Block II: Discussion with Advisory Board Members (in-person & hybrid)

Plenary Room, E-07

19h00-23h00

Joint Dinner

@ Berliner Wasserwerk

- Hohenzollerndamm 208a, 10717 Berlin

6G-RIC Demo Session

October 10, 2024, Fraunhofer HHI, Salzufer 15-16, Berlin



OCTOBER 10

16h00-17h00

DEMO AND STARTUP SESSION (6G-RIC Showroom, E-02 + Integration Lab, E-01)

Session Coordinators: Leszek Raschkowski, Kenan Turbic, Ramez Askar, Zoran Utkovski

xG-Incubator Startups (6G-RIC Showroom, E-02)

S01: Modular Open RAN Radio Unit Platform for 6G Research

S02: 6G Network Planning and Customized 5G/6G RAN: Adaptive Network Slicing

S03: MOCZ - an alternative Physical Layer to OFDM for short-packet communication

Massive Beams
airpuls
MOXZ

6G-RIC Demos (6G-RIC Showroom, E-02)

S04: 2*2 D-band LOS-MIMO Demo

S05: Secrecy Maps Demo

S06: Channel Charting for Positioning

S07: Photonic Neuromorphic Computing for Nonlinear Optical Signal Equalization (NELI)

S08: Intent-based Optical Transport Control

S09: Autonomous Link-Capacity Adjustment in Optical Metro-Aggregation Networks

S10: Multi-RIS-based Signal Amplification using Channel Splicing for Calibration

S11: Application level energy monitoring for Green 6G

S12: AI native control interfaces

S13: Signal Equalization using Micro-Ring Resonator based Reservoir Computing

S14: Simulation Environment ISAC + Channel Charting

S15: Simulation-based demo RIS

IHP
HHI-WN + TUB
IIS-LV
HHI-PN+TUB-PKS
FOKUS, TUBS-KN, HHI-PN
HHI-PN
TUB-TKN
HHI-WN
HHI-WN
CAU
HHI-WN
HHI-WN, TUB-TKN

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6G-RIC Demos (6G-RIC Showroom, E-02)

- S16: Simulation-based demo RIS
- S17: Networked Collaborative Robotics
- S18: Neuromorphic Wireless Cognition
- S19: 240GHz Single-Carrier Demo
- S20: Energy-efficient Sub-THz Waveform Design
- S21: Space division Multiplexing PON
- S22: Automatic Deployment of Mobile Network Services
- S23: Semantic-aware (Massive) Multiple Access
- S24: D-Band Sub-THz Sensing and Communication

Demos (6G-RIC Integration Lab, E-01)

- I01: Next-Gen RAN: User mobility and energy saving
- I02: OAI MU-MIMO (First step of Cell free MIMO)
- I03: mmWave Sidelink
- I04: Interactive Channel Emulation for 5G Sidelink

HHI-WN
HHI-WN + TUB-Control
HHI-WN
IHP
HHI-WN
HHI-PN
TUC
DLR
HHI-WN

HHI-WN
HHI-WN
HHI-WN
HHI-WN, airpuls

6G-RIC Demo Session

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6G-RIC
Research and
Innovation Cluster

